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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :
Ken-ichi KITAYAMA et al. : **Mail Stop: PCT**
Serial No. 10/579,630 : Attorney Docket No. 2006_0745A
Filed May 17, 2006 :
OPTICAL SIGNAL PROCESSING :
DEVICE FOR A/D CONVERTER :
INCLUDING OPTICAL ENCODERS :
WITH NONLINEAR LOOP MIRRORS :
(AS AMENDED) :
[Corresponding to PCT/JP2004/017007
Filed November 16, 2004]

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

THE COMMISSIONER IS AUTHORIZED
TO CHARGE ANY DEFICIENCY IN THE
FEES FOR THIS PAPER TO DEPOSIT
ACCOUNT NO. 23-0975

Sir:

Pursuant to the provisions of 37 CFR 1.56, 1.97 and 1.98, Applicants request consideration of the references listed on attached form PTO-1449 and any additional information identified below in paragraph 3. A legible copy of each reference listed on the Form PTO-1449 is enclosed, except a copy is not provided for:

- ☒ each U.S. Patent and U.S. Patent application publication;
- ☐ each reference previously cited in the international application PCT/_____; and/or
- ☐ each reference previously cited in prior parent application Serial No. _____.

1a. ☒ This Information Disclosure Statement is submitted:

within three months of the filing date (or of entry into the National Stage) of the above-entitled application, or

before the mailing of a first Office Action on the merits or the mailing of a first Office Action after the filing of an RCE,

and thus no certification and/or fee is required.

1b. ☐ This Information Disclosure Statement is submitted

after the events of above paragraph 1a and prior to the mailing date of a final Office Action or a Notice of Allowance or an action which otherwise closes prosecution in the application, and thus:

(1) ☐ the certification of paragraph 2 below is provided, **or**

(2) ☐ the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.

1c. ☐ This Information Disclosure Statement is submitted:

after the mailing date of a final Office Action or Notice of Allowance or action which otherwise closes prosecution in the application, and prior to payment of the issue fee, and thus:

the certification of paragraph 2 below is provided, and

the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.

2. It is hereby certified

- a. ☐ that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Statement, or
- b. ☐ that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of the Statement.

3. ☐ Consideration of the following list of additional information (including any copending or abandoned U.S. application, prior uses and/or sales, etc.) is requested.
4. For each non-English language reference listed on the attached form PTO-1449, reference is made to:
- a. ☐ a full or partial English language translation submitted herewith,
 - b. ☐ a foreign patent office search report (in the English language) submitted herewith,
 - c. ☒ the concise explanation contained in the specification of the present application at pages 1-3,
 - d. ☒ the concise explanation set forth in the attached English language abstract,
 - e. ☒ the concise explanation set forth below or on a separate sheet attached to the reference:

Japanese Patent Laid-open Publication No. 1-271730 corresponds to U.S. Patent No. 4,926,177

Japanese Patent Laid-open Publication No. 2000-10129 corresponds to U.S. Patent No. 6,424,773 and U.S. Patent No. 6,665,480

Japanese Patent Laid-open Publication No. 9-33967 corresponds to U.S. Patent No. 5,604,618

Japanese Patent Laid-open Publication No. 9-222620 corresponds to U.S. Patent No. 5,848,205

Japanese Patent Laid-open Publication No. 2000-321606 corresponds to European Patent Application Publication No. EP-1052746

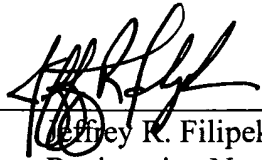
Japanese Patent Laid-open Publication No. 2002-525647 corresponds to U.S. Patent No. 6,229,937

Japanese Patent Laid-open Publication No. 2003-107541 corresponds to U.S. Patent Application Publication No. US 2003/0063860

5. ☐ A foreign patent office search report citing one or more of the references is enclosed.

Respectfully submitted,

Ken-ichi KITAYAMA et al.

By 

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August 16, 2006

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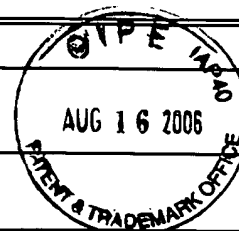
FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT(S)
(Use several sheets if necessary)

Date Submitted to PTO: August 16, 2006

ATTY DOCKET NO.
2006_0745ASERIAL NO.
10/579,630APPLICANT
Ken-ichi KITAYAMA et al.FILING DATE
May 17, 2006

GROUP



U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4,926,177	5-15-90	Sakata			
	AB	6,424,773	7-23-02	Watanabe			
	AC	6,665,480	12-16-03	Watanabe			
	AD	5,604,618	2-18-97	Mori et al.			
	AE	5,848,205	12-8-98	Bigo			
	AF	2003/0063860	4-3-03	Watanabe			
	AG						
	AH						
	AI						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	AJ	1-271730	10-30-89	Japan			abstract
	AK	2000-10129	1-14-00	Japan			abstract
	AL	9-33967	2-7-97	Japan			abstract
	AM	9-222620	8-26-97	Japan			abstract
	AN	9-102991	4-15-97	Japan			abstract

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AO	Henry F. Taylor, "An Optical Analog-to-digital Converter-Design and Analysis", IEEE Journal of Quantum Electronics, Vol. QE-15, No. 4, April 1979.
	AP	B. Jalali et al., "Optical folding-flash analog-to-digital converter with analog encoding", Optics Letters, Optical Society of America, Vol. 20, No. 18, September 15, 1995.
	AQ	N. J. Doran et al., "Nonlinear-optical loop mirror", Optics Letters, Optical Society of America, Vol. 13, No. 1, January 1988.

EXAMINER

DATE CONSIDERED

INFORMATION DISCLOSURE STATEMENT

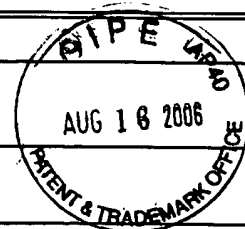
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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	6,229,937	5-8-01	Nolan et al.			

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	AB	2000-321606	11-24-00	Japan			abstract
	AC	1 052 746	11-15-00	Europe			x
	AD	8-146473	6-7-96	Japan			abstract
	AE	2002-525647	8-13-02	Japan			corresponds to AA
	AF	2003-107541	4-9-03	Japan			abstract

OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

	AG	Takashi Yamamoto et al., "Demultiplexing of subterabit TDM signal by using ultrafast nonlinear optical loop mirror", Technical Report of the Institute of Electronics Information and Communication Engineers, C-I, issued from the Institute of Electronics Information and Communication Engineers, Vol. J82-C-1, pp. 109-116, March 1999.
	AH	Govind P. Agrawal, "NONLINEAR FIBER OPTICS", Academic Press, ISBN: 0120451425, 2nd Edition, pp. 210-211, 1995.
	AI	Stephen M. Jensen, "The Nonlinear Coherent Coupler", IEEE Journal of Quantum Electronics, Vol. QE-18, No. 10, October 1982.
	AJ	William S. Wong et al., "Self-switching of optical pulses in dispersion- imbalanced nonlinear loop mirrors", Optics Letters, Optical Society of America, Vol. 22, pp. 1150-1152, 1997.
	AK	I. Y. Khrushchev et al., "High-quality laser diode pulse compression in dispersion-imbalanced loop mirror", Electronics Letters, Vol. 34, pp. 1009-1010, May 1998.
	AL	K. R. Tamura et al., "Spectral-Smoothing and Pedestal Reduction of Wavelength Tunable Quasi-Adiabatically Compressed Femtosecond Solitons Using a Dispersion-Flattened Dispersion-Imbalanced Loop Mirror", IEEE Photonics Technology Letters, Vol. 11, pp. 230-232, February 1999.
	AM	K. J. Blow et al., "Demonstration of the nonlinear fiber loop mirror as an ultrafast all-optical demultiplexer", Electronics Letters, Vol. 26, pp. 962-964, 1990.
	AN	T. Yamamoto et al., "Ultrafast nonlinear optical loop mirror for demultiplexing 640 Gbit/s TDM signals, Electronics Letters, Vol. 34, 1013-1014, May 1998.

EXAMINER

DATE CONSIDERED